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05/06 /04

Alan A. Bornstein

Date of Signature

Reg. No. 40,919

Attorney for Appellant(s)

**PATENT**

UNUS #: 01-D393-TR

CASE #: J6709(C)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Customer No.: 000201  
Appellants: Goldberg et al.  
Serial No.: 09/938,455  
Filed: August 24, 2001  
For: LAMELLAR POST FOAMING CLEANSING COMPOSITION AND  
DISPENSING SYSTEM

Group: 1751  
Examiner: Charles I. Boyer  
Edgewater, New Jersey 07020  
May 6, 2004

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**APPEAL BRIEF**

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Commissioner for Patents  
Alexandria, VA 22313-1450  
Sir:

There are enclosed herewith three (3) copies of an Appeal Brief for Appellants. Please charge the fees due, \$330.00 and \$330.00 respectively, to our Deposit Account No. 12-1155. Please credit any overpayment or charge any additional fees to the same Deposit Account.

Three copies of this letter are enclosed.

Respectfully submitted,

Alan A. Bornstein

Registration No. 40,919

Attorney for Applicant(s)

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### **I. REAL PARTY IN INTEREST**

The real party in interest is Unilever Home and Personal Care USA, division of CONOPCO, Inc., a corporation organized and existing under and by virtue of the laws of the State of New York and having its principal place of business at 33 Benedict Place, Greenwich, Connecticut 06830.

### **II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences.

### **III. STATUS OF CLAIMS**

The application was originally filed with claims 1 to 36. Claims 29, 30, 32, 33, 36 and new claims 37-61 remain in the case and are the subject of this appeal. The claims on appeal are included in the Appendix.

### **IV. STATUS OF AMENDMENTS**

A response was filed on February 18, 2004 to the Final Rejection which cancelled claims 1-28 and 31 and amended claim 29 and added claims 37-61. An Advisory Action was mailed on March 29, 2004 advising that the amended claims did not place the application in condition for allowance and that the proposed amendment would be entered in this case.

### **V. SUMMARY OF THE INVENTION**

The invention relates to detergent compositions suitable for topical application for cleansing. Particularly, it relates to self-foaming, lamellar compositions and to aerosol barrier dispensing systems requiring an aerosol piston can to dispense the self-foaming lamellar composition. Although the art teaches structured postfoaming cleansing compositions with a range of viscosity, there is no disclosure or suggestion in the art of an economical method of dispensing the compositions using an imperfect barrier seal, namely an aerosol piston can, nor the unique rheological properties of the composition that can be used therein. Prior art postfoaming compositions are generally

packaged in either an aerosol can where there is no barrier between the cleaning composition and the propellant or an aerosol barrier can which completely separates the propellant from the blended cleansing and foaming agent product, for example, a bag and can. Postfoaming is defined in the invention as a material which remains substantially free from foaming for a short time after dispensing from a pressurized can and eventually forms a higher density product as distinguished from a mousse which is dispensed immediately as a foam and thereupon forms a lower-density product than the present invention. Prior art mousse compositions are disadvantageous because they tend to break down and dissipate quickly after being applied to the skin. Postfoaming gels are generally packaged in aerosol (complete) barrier containers, which separate the propellant from the blended cleansing and foaming agent product, such as a bag and can arrangement. Mousses are packaged with a propellant blended with a cleansing product. The prior art of record does not disclose post-foaming compositions that are blended in a can with an imperfect seal (i.e., an aerosol piston can) where the cleaning composition may migrate past the seal separating the propellant from the cleansing composition and cause the product to fail to properly dispense.

In one aspect of the invention, is a liquid cleansing and moisturizing composition and dispensing system comprising: (a) from about 80% to about 97% by weight of a neat cleansing lotion having about 0.5% to about 65% by weight of the total composition of at least one non-soap anionic or mixture of non-soap anionic detergents; about 35% to about 90% by weight of the total composition of water; (b) from about 3% to about 20% by weight of the total composition of a volatile foaming agent; (c) less than about 4% by weight of the soap; wherein the neat cleansing lotion is a lamellar structured sheathing composition at 25°C; wherein the initial viscosity is greater than about 40,000 CPS measured at 10 Pa at 25°C; and wherein the cleansing composition is contained in an aerosol piston can.

The inventive product as claimed requires an aerosol piston can. See, e.g., the instant specification on page 31-33, example 3, see also Appendix 2, Description of an Aerosol Piston Can.

The claims to the subject invention as presently in the case clearly set forth and define a self-foaming cleansing product containing specific concentrations of ingredients that is dispensed from an aerosol piston can as opposed to prior art self-foaming cleansing compositions which are either dispensed from an aerosol can which contains no barrier or a complete barrier can such as a bag and can system. This is borne out when one reviews independent claim 29 in the application.

#### **VI. ISSUES FOR APPEAL**

Claims 29, 30, 32, 33 and 36-61 are rejected under 35 U.S.C. §103(a) as being unpatentable over Dixon (U.S. Patent No. 6,407,044) and other art not presently of record.

#### **VII. GROUPING OF CLAIMS**

Appellants submit that with respect to the above issues, each of the following five groups of claims is independently patentable: group (1) claims 29, 30, 36-43, 46-54 and 61; group (2) claims 32-33; group (3) claims 44-45; group (4) claims 55-56; and group (5) claims 57-60, whereby the groups of claims do not stand or fall together.

#### **VIII. APPELLANTS' ARGUMENTS**

The Examiner's rejection of claims 29, 30, 32, 33 and 36-61 under 35 U.S.C. §103(a) as being unpatentable over Dixon (U.S. Patent No. 6,407,044) for reasons set forth in the prior Office Action/Advisory Action should be reversed.

Dixon relates to aerosol personal cleansing emulsion compositions which contain low-vapor pressure propellants and that are packaged into aerosol containers, specifically aerosol metal containers and bag and bottle or bag in containers. (See column 16, lines 10-13). There is no disclosure or suggestion in Dixon of a composition that can be packaged in an aerosol piston can that contains an imperfect barrier seal. Such piston cans require their contents to possess unique rheological properties so that the composition does not flow by the piston and become contaminated with the aerosol propellant contained in the container (See Example 3 of the instant specification). None of Dixon's examples disclose a liquid cleansing and moisturizing cleansing

composition and dispensing system comprising a neat cleansing lotion and a volatile foaming agent formulated therein having an initial viscosity greater than 40,000 cps measured at 10 Pa and 25°C, which is contained in an aerosol piston can. Dixon's examples disclose compositions suited for either an aerosol container that has no barrier or a bag in bottle or bag in can that has a complete or perfect barrier. Moreover, Dixon does not appreciate the advantages of using an aerosol piston can nor the characteristics of a lamellar structured postfoaming cleansing composition that would be required to make such a product feasible. Therefore, there would be no motivation in view of the teachings of Dixon to use an aerosol piston can for dispensing a self-foaming composition as described in claims 29, 30, 36-43, 46-54 and 61.

Claims 32-33 further specify that the composition has a dynamic density of greater than about 0.2 grams/ml, preferably greater than about 0.4 grams/ml, as measured using the specific disclosed methodology. Dixon does not disclose or suggest a postfoaming lamellar cleansing composition contained in an aerosol piston can having a dynamic density of greater than about 0.2 grams/ml. Claims 44-45 further specify that the neat cleansing lotion has a shear thinning index of greater than about 0.4 or about 0.5 as measured using the disclosed methodology in the specification. Dixon does not disclose or suggest lamellar postfoaming cleansing composition wherein the neat cleansing lotion has a shear-thinning index of greater than about 0.4 grams/ml. Claims 55-56 further specify that a solubilizing agent is contained in the inventive cleansing composition, preferably where that agent is isopropyl palmitate and isopropyl myristate or a combination thereof. Dixon does not disclose or suggest a lamellar postfoaming cleansing composition contained in an aerosol piston can that contains a solubilizing agent, preferably isopropyl palmitate or isopropyl myristate. Lastly, claims 57-60 further specify that the cleansing composition contain an emulsifier of a specific structure as described therein. Finally, Dixon does not disclose or suggest a lamellar postfoaming cleansing composition containing an emulsifier of a specific structure as described in claims 57-60 and which is contained in an aerosol piston can. Since appellants find no teaching or suggestion in Dixon that are directed to the specific claim groupings; claims 29, 30, 36-43, 46-54 and 61; 32-33; 44-45; 55-56 and 57-60 are patentably distinguished from Dixon and other art cited by the Examiner.



The Examiner has brought several references to the attention of the appellant, which disclose various aerosol or valve cans which references are not presently of record.<sup>1</sup> However, none of the cans disclosed therein contain the structure of an aerosol piston can as claimed in the instant case and as described in Appendix 2 of this brief. The Examiner asserts that it would be obvious to combine the teachings of making the valve cans, including an aerosol piston can, with the compositions of Dixon in order to produce the product as claimed in independent claim 29. However, it is well settled that the Examiner cannot pick and choose among individual elements of assorted prior art references to recreate the claimed invention based on the hindsight of the appellant's invention. Rather, the Examiner has the burden to show some teaching of suggestion in the references to support their use in the particular claim combination. See Smith-Kline Diagnostics, Inc. v. Helena Laboratories Corp., 8 U.S.P.Q.2d 1468 (Fed. Cir. 1985). Additionally, the mere fact that it is possible to find isolated disclosures which might be combined in such a way as to produce a new product does not necessarily render such a product obvious unless the art also contains something to suggest the desirability of the proposed combination, i.e., the motivation to combine the references. In Re Grabiak, 226 U.S.P.Q. 870, 872 (Fed. Cir. 1985). As mentioned above, the references the Examiner has gleaned from the art of various cleansing compositions and dispensing configurations do not disclose or suggest the claimed postfoaming lamellar composition contained in an aerosol piston can as would be known to one skilled in the art and as illustrated in Appendix 2 of this brief.

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<sup>1</sup> U.S. Patent No. 5,064,441; Kawase et al.  
U.S. Patent No. 4,964,541; Gueret  
U.S. Patent No. 4,733,702; Anderson III, et al.  
U.S. Patent No. 4,727,914; Anderson III, et al.

## **IX. CONCLUSION**

In conclusion, the product of the present invention constitutes an improvement in the art. It is distinguished by its claims over the art. Claims 29, 30, 32, 33 and 36-61 are novel and nonobvious and should be allowed. Appellants respectfully request the Board of Patent Appeals and Interferences to reverse the Examiner's final rejections under 35 USC §103(a).

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Alan A. Bornstein", written over a horizontal line.

Alan A. Bornstein  
Registration No. 40,919  
Attorney for Appellant(s)

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(201) 840-2680

## **X. APPENDIX**

The claims on appeal are as follows:

29. A liquid cleansing and moisturizing composition and dispensing system comprising:

(a) from about 80 to about 97% by wt. of a neat cleansing lotion having

about 0.5 to about 65% by wt. of the total composition of at least one non-soap anionic or mixture of non-soap anionic surfactants;

about 35 to about 90% by wt. of the total composition of water;

(b) from about 3 to about 20% by wt. of the total composition of a volatile foaming agent;

(c) less than about 4% by wt. of a soap;

wherein the neat cleansing lotion is a lamellar structured shear thinning composition at 25 °C; wherein the initial viscosity is greater than about 40,000 cps measured at 10 Pa at 25 °C; and wherein the cleansing composition is contained in an aerosol piston can.

30. The composition of claim 29 wherein the at least one non-soap anionic or mixture of non-soap anionic surfactants is in the concentration range of about 1 to about 25% by wt. of the total composition.

32. The composition and dispensing system of claim 29 wherein the composition has a dynamic density of greater than about 0.2 g/mL as measured 30 seconds after dispensing at 25 °C and 1 atm pressure.

33. The composition and dispensing system of claim 32 wherein the composition has a dynamic density of greater than about 0.4 g/mL as measured 30 seconds after dispensing at 25 °C and 1 atm pressure.

36. The composition of claim 29 wherein the soap is less than about 1% by wt. of the total composition.
37. The system of claim 29 wherein the neat cleansing lotion further comprises about 0.1 to about 25% by wt. of the total composition of a surfactant selected from amphoteric, zwitterionic or mixtures thereof.
38. The system of claim 29 wherein the neat cleansing lotion further comprises about 0.5 to about 50% by wt. of the total composition of lipophilic emollients, humectants, and mixtures thereof.
39. The system of claim 38 wherein the neat cleansing lotion comprises about 6 to about 35 by wt. of the total composition of lipophilic emollients, humectants, and mixtures thereof.
40. The system of claim 38 wherein the neat cleansing lotion contains at least one lipophilic emollient in a concentration greater than about 10 % .
41. The system of claim 40 wherein the neat cleansing lotion contains at least one lipophilic emollient in a concentration greater than about 12%.
42. The system of claim 40 wherein the at least one lipophilic emollient is a triglyceride oil.
43. The system of claim 29 wherein the neat cleansing lotion contains

About 0.1% to about 15% by wt. of the total composition of a lamellar phase inducing structurant selected from:

C8 to C24 alkenyl or branched alkyl fatty acid or ester thereof with a melting point below 25C;

C8 to C24 alkenyl or branched alkyl fatty alcohol or ether thereof with melting point below 25C;

C5 to C12 alkyl fatty acids; and

hydroxystearic acid.

44. The system of claim 29 wherein the neat cleansing lotion has a shear thinning index greater than about 0.4 .

45. The system of claim 44 wherein the neat cleansing lotion has a shear thinning index greater than about 0.5 .

46. The system of claim 38 wherein the lipophilic emollient is selected from a triglyceride oil, mineral oil, petrolatum, and a blend thereof; and the humectants are selected from polyhydric alcohols, polyols, and blends thereof.

47. The system of claim 29 further comprising at least one cationic skin conditioning agent.

48. The system of claim 47 wherein the cationic skin conditioning agent is present in the range of from about 0.01 to about 5 % by wt. of the total composition.

49. The system of claim 48 wherein the cationic skin conditioning agent is present in the range of from about 0.1 to about 1% by wt. of the total composition.

50. The system of claim 47 wherein the cationic skin conditioning agent is selected from cationic polysaccharides, cationic copolymers of saccharides and synthetic cationic monomers, synthetic cationic polymers, polymeric quaternary ammonium salts of hydroxyethylcellulose, cationic proteins, and salts and derivatives thereof.

51. The system of claim 29, wherein the anionic surfactant is selected from alkyl ether sulfate, alkyl sulfate, acyl isethionate, mono-and di-alkyl phosphate, and blends thereof.

52. The system of claim 37, wherein the amphoteric /zwitterionic surfactant is selected from cocoamidopropyl betaine, sodium lauroamphoacetate, sodium cocoamphoacetate, and blends thereof.

53. The system of claim 43, wherein the lamellar structurant is selected from isostearic acid, lauric acid, oleic acid, palm kernel acid, coconut acid, and blends thereof

54. The system of claim 29 wherein initial viscosity is in the range of about 40,000 to about 2,000,000 cPs measured at 10 Pa at 25 C.

55. A system according to claim 29 further comprising a solubilizing agent.

56. The system of claim 55 wherein the solubilizing agent is selected from isopropyl palmitate and isopropyl myristate.

57. The system of claim 29 further comprising:

about 0.1% to about 5% by wt. of the neat cleansing lotion of a lamellar stabilizing material consisting of a polymeric hydrophilic emulsifier modified at one or both ends with a hydrophobic polyhydroxy fatty acid ester chain.

58. The system of claim 57 wherein the emulsifier is dipolyhydroxystearate.

59. The system of claim 57 wherein the emulsifier has a polyalkylene glycol backbone chain of general formula:

$$\text{H}-(\text{O}-(\text{CH}_2)_a-\text{O})_n-\text{OH}$$
 wherein a is 2 to 4 and n is 2 to 60 having 1 to 50 C8 to C24 fatty acid group or groups attached to one or both sides of the backbone.

60. The system of claim 59 wherein the fatty acid group or groups attached to backbone chain is selected from hydroxystearic acid, palmitic acid, and blends thereof.

61. The system of claim 29 wherein the least one volatile foaming agent is a hydrocarbon or a mixture thereof.

## **XI. LIST OF AUTHORITIES**

Smith Klein Diagnostics Inc. v. Helena Laboratories Corp., 8 USPQ 2d 1468 (Fed.Cir. 1985).

In re Grabiak, 226 USPQ 2d 870, 872 (Fed.Cir. 1985).

# PRINCIPLES OF AEROSOL TECHNOLOGY

**PAUL A. SANDERS**

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& Company, Wilmington, Delaware*



**VAN NOSTRAND REINHOLD COMPANY**  
NEW YORK / CINCINNATI / TORONTO / LONDON / MELBOURNE



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vacuum that is created causes the product to be siphoned up the dip tube where it mixes with the propellant. At the same time, air enters the product container to replace the material that has been discharged. The system is automatically sealed as soon as the valve is released.

#### THE PISTON CONTAINER (American Can Company)

The aluminum "MiraFlo" piston container, manufactured by the American Can Company, is illustrated in Figure 24-11. According to Boyne,<sup>16</sup> it is used for packaging hand lotions, hair treatments, cheese spreads, cake icings, and caulking compounds. The unit consists of a free moving piston in a coated extruded aluminum container. The piston is constructed of a plastic, such as polyethylene, and is essentially a hollow cylinder with the upper end closed and the bottom end open. The upper end is fairly rigid but the sides are flexible in order to maintain a seal with the wall. The

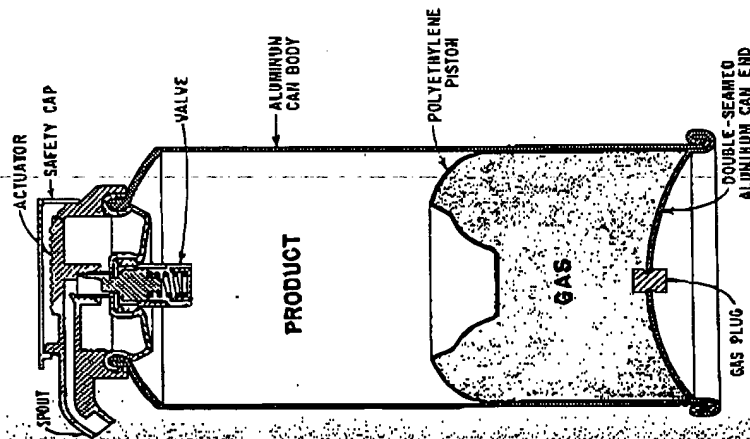


Figure 24-11 The aluminum plastic piston aerosol can. (Courtesy of the American Can Co.)

## 356 MISCELLANEOUS

principle behind the piston container is that the product itself forms the seal between the piston and the wall.

The can is shipped completely assembled. The product is filled through the 1-in. opening in the piston can. In order to minimize the amount of air trapped in the container, the addition of as much product as possible is recommended, leaving only enough space for the valve cup.

The "MiraFlo" unit is pressurized through a center hole in the bottom of the container with a special gassing and plugging unit called the *Energizer*. This equipment is available as a single can gassing unit or a multi-head machine. After the propellant has been loaded into the container by the *Energizer*, a rubber plug is pushed into the opening while the container is still under pressure. According to Hoffman and Marchak,<sup>17</sup> the resistance of the plug to blow out exceeds the buckling strength of the bottom of the container. The compressed gases are normally used for propellants at a pressure of about 100 psi. Nitrogen is preferred because of low product solubility. The liquefied gases can be used provided the plastic used for the piston is impervious to the liquefied gases.

Since the piston can depends upon the product to form the seal between the piston and the container wall, the product must be quite viscous. Otherwise, the propellant will leak past the seal or the product will seep down into the propellant chamber. Even if the viscosity of the product is satisfactory at room temperature, higher temperatures may decrease it sufficiently so that the seal is broken. In order to overcome these disadvantages, smaller pistons with either three or four piston rings have been proposed.<sup>18,19</sup> It is reported that this type of construction permits products with low viscosity to be packaged without danger of propellant bypassing the seal. In addition, the rings maintain an effective seal even if the container is dented. An improved gassing and sealing device called the *Pres-toplug* closure is reported to allow both compressed and liquefied gases to be loaded.

### THREE-PHASE SYSTEMS

Three-phase systems are of consequence mostly from a historical standpoint, and the background of this system has been discussed in detail by Johnsen.<sup>20</sup> There was a period during the 1950's when interest in this system was fairly high because at that time it was about the only practical method for spraying aqueous solutions. Several three-phase products were marketed but because of the inherent disadvantage of this system, it never achieved any significant popularity and today it is a rarity.

## THE PISTON BARRIER SYSTEM

### How it works

A plastic cup-shaped piston is fitted inside a seamless aluminum can to create the barrier that separates the product and propellant. The propellant is inserted through a small hole at the base of the container which is then plugged. When the actuator is depressed, the propellant exerts the pressure required to raise the piston, forcing the formulation to discharge in a smooth, controlled manner.

### A full range of styles

CCL Container offers a complete range of piston shapes and sizes, as well as different plastic materials required to match specific products, propellants and performance requirements.

The piston is available in both wall-wiping and free-floating styles. The wall-wipe piston scrapes the inner wall of the aluminum can as it rises, assuring total product evacuation. The free-float piston is designed to discharge even if the outer container is slightly damaged, readily maneuvering around sidewall dents to assure a uniform and efficient dispense throughout the entire life cycle of the product.

### Dispensing advantages

#### CCL Container's piston barrier package:

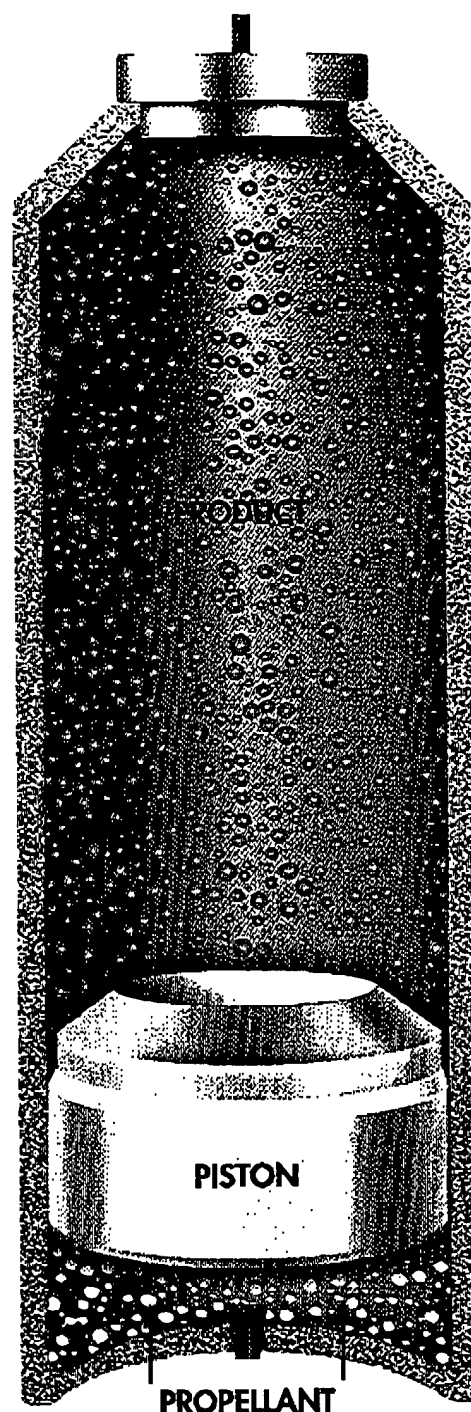
- Ensures product integrity throughout consumer use by maintaining product/propellant separation
- Provides smooth, controlled and uniform product discharge
- Maximizes product evacuation
- Conforms to FDA requirements for most food products
- Eliminates propellant bypass tendency common with other metal containers because of its seamless aluminum construction
- Comes with precision-engineered gassing hole to improve sealing during gassing and plugging operations
- Offers a fully closed curl configuration for maximum strength during crimping operations

### Available Sizes†

Size diameters (mm)	Height range (mm)	Approximate volume (US fl oz equivalent)*
35	70 - 140	1.5 - 3.5
45	95 - 180	3.0 - 7.0
53	120 - 210	5.0 - 11.5
55	125 - 220	5.5 - 13.0

\* Capacity values are approximations. Actual product fill-to-container ratios must be determined on a case-by-case basis.

† The sizes shown represent commercially available options for which stock tooling exists. However, as additional opportunities arise, CCL Container would be pleased to present quotes covering other specialized requirements that may not be shown.



**CCL Container**  
**Aerosol Division**



One Llodio Drive • Hermitage, PA 16148  
Tel: (724) 981-4420 • Fax: (724) 342-1116  
E-mail: sales@cclcontainer.com • Web: www.cclcontainer.com

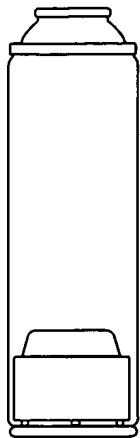
**North America's leading supplier of barrier systems**



## Barrier & Shaped

# Aerosols

Barrier & Shaped



Piston

### Barrier

- U.S. Can offers both Piston and Sepro® (Bag-in-can) barrier packages.
- Suitable for dispensing gels, silicone, food products, caulking and other viscous type products.
- Bags and pistons available in several material types meeting FDA approval.

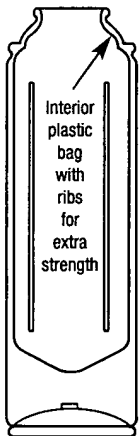
#### • Piston

- Product can be dispensed at any angle.
- For use with high viscosity products.
- Suitable for most post foaming products.
- Rust resistant/proof bottom available.

Necked-in-size offerings available:

202 x 509  
202 x 700

*imperfect barrier  
(piston-wall seal)*



Sepro®

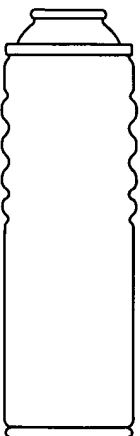
#### • Sepro®

- Product can be dispensed at any angle.
- Suitable for "hard to hold" products.
- For use with products with any viscosity.
- Suitable for post foaming products (keeps product separate from dispensing gas, e.g. shaving gels).
- Provides high performance plastic barrier.
- Rust resistant/proof bottom available.

Necked-in-size offerings available:

202 x 605  
202 x 700

*perfect barrier  
(plastic bag)*



Shaped

### Shaped

- U.S. Can offers shaped aerosol cans with beaded profiles positioned to meet specific needs of consumer packaged goods marketing.
- Beading offers an excellent gripping feature especially when actuator must be held down for significant time or for senior friendly applications.

Necked-in-size offerings available:

211 x 604  
211 x 713

*No barrier*

**aerosolsales@uscanco.com**

**United States Can Company • Corporate Headquarters • 700 E. Butterfield Road  
• Suite 250 • Lombard, IL 60148 • Phone (630) 678-8000 • Fax (630) 678-8122 • www.uscanco.com**